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Research Letter

Isolated Krukenberg tumor in pregnancy

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Dear Editor

The risk of ovarian malignancy is low during pregnancy and many cases are a Krukenberg tumor, emphasizing the importance of medical consultation prior to conception [1]. Any new ovarian growth should be actively managed in women with a history of gastrointestinal tract cancers [2]. The following case report is of such a situation.

A 35-year-old pregnant woman, G1P0, had a history of sigmoid colon cancer, Dukes' stage C, 2 years ago, which was treated with low anterior resection and postoperative adjuvant chemotherapy [5-fluorouracil/folinic acid plus oxaliplatin (FOLFOX4)], and had a complete remission. She received one ultrasound examination at 17 weeks' gestation without abnormal findings. Due to abdominal pain, obstetric ultrasound at 32 weeks' gestation showed an 18-cm right adnexal heterogeneous cystic mass with solid components, and the subsequent magnetic resonance imaging showed similar findings (Fig. 1). After a detailed and thorough discussion, she was scheduled for Cesarean section (C/S) after 37 weeks' gestation. Salpingo-oophorectomy was performed after C/S. Pathology confirmed a 20-cm Krukenberg tumor of the right ovary without evidence of tumors on other sites. FOLFOX4 therapy was administered subsequently 12 times every 2 weeks. She was still alive more than 19 months after salpingo-oophorectomy.

To report this case, we used the term "Krukenberg tumor, pregnancy" (from 1956 to October 16, 2014) to search PubMed for relevant English-language articles, and identified only 49 published articles (PubMed.gov. http://www.ncbi.nlm.nih.gov/pubmed/?term=krukenberg+tumor%2C+pregnancy. Accessed on 11 November, 2014), suggesting that the occurrence of a Krukenberg tumor during pregnancy was extremely rare. The prognosis of Krukenberg tumor is poor [2,3], especially during pregnancy, which is often considered to be lethal [4]. This report created a management dilemma, since the patients refused interventions that were felt to pose a hazard to the continuation of their pregnancy, including aggressive surgery and chemotherapy. In fact, preterm births were obviously at greatest risk [5]. Therefore, laparotomy was delayed until nearly full term in our current case. However, because of the presence of unexpected risks in pregnant women with ovarian tumors, an earlier intervention is always suggested [1]. Some strategies have been used to minimize the risks of adverse events, including the following: (1) there is no difference of treatment between pregnant and nonpregnant status; (2) elective surgery can, if possible, be delayed until or after delivery; (3) if surgery is warranted, electronic fetal heart rate and uterine contraction should be monitored before, during, and after surgery; and (4) preconception counseling and ultrasound evaluation can decrease the incidence of pathological ovarian tumors during pregnancy.

Fig. 1. Coronal T2-weighted magnetic resonance image shows a heteroechoic, solid mass lesion on the right ovary favoring the diagnosis of malignant tumor. Intrauterine pregnancy (arrow) is evident.

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A recent publication by Genç and colleagues [4] also suggested that early detection followed by surgery and chemotherapy during pregnancy could possibly result in a favorable outcome in these patients. However, a 1-month delay might not compromise the outcome of our current patient. More clinical experience might be needed to clarify what would be an appropriate strategy in the management of pregnant women with malignant ovarian tumors, including Krukenberg tumors.

Conflicts of interest

The authors have no conflicts of interest relevant to this article.

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